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STANDARD

5630-3

Second edition
1996-06-15

**Paper and board — Accelerated ageing —
Part 3:
Moist heat treatment at 80 °C and 65 %
relative humidity**

Papier et carton — Vieillissement accéléré —

Partie 3: Traitement à la chaleur humide à 80 °C et 65 % d'humidité relative



Reference number
ISO 5630-3:1996(E)

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

International Standard ISO 5630-3 was prepared by Technical Committee ISO/TC 6, *Paper, board and pulps*, Subcommittee SC 2, *Test methods and quality specifications for paper and board*.

This second edition cancels and replaces the first edition (ISO 5630-3:1986), which has been technically revised.

ISO 5630 consists of the following parts, under the general title *Paper and board — Accelerated ageing*:

- *Part 1: Dry heat treatment at 105 °C*
- *Part 3: Moist heat treatment at 80 °C and 65 % relative humidity*
- *Part 4: Dry heat treatment at 120 °C or 150 °C*

Annexes A and B of this part of ISO 5630 are for information only.

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Case Postale 56 • CH-1211 Genève 20 • Switzerland

Printed in Switzerland

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Introduction

Exposure of paper or board to a hostile environment, such as some types of radiation, elevated temperature, or chemical attack over a period of hours, may provide information concerning the natural changes that may occur in the material over a period of years.^[1, 2]

Hostile environments that have been used include dry heat, heat and moisture, visible and ultraviolet radiation, and sulfur dioxide gas.

Properties compared before and after such exposure include mechanical, chemical and optical properties.

It has been determined that the degradation of cellulose is very sensitive to moisture.^[3, 4] The rate of degradation increases about 25 % when the relative humidity increases from 60 % to 70 %. In order to be representative of natural conditions in many countries where conditions of high humidity, and perhaps high temperature, are common, it is desirable that in an accelerated ageing atmosphere paper should have the same moisture content as in a natural ageing atmosphere.^[5, 6] For this reason, after studying the ageing of many papers under different conditions of temperature and relative humidity, 80 °C and 65 % relative humidity have been selected^[5, 6] for tests of accelerated ageing.

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